

**AMENDMENTS TO THE DRAWINGS:**

The drawings are amended as described below by presenting a replacement figure as attached hereto.

**REMARKS**

In accordance with the foregoing, the specification has been amended to improve form and provide improved correlation with the drawings and claims. Claims 1, 27 and 28 are amended, and claims 23 – 26 are canceled without prejudice or disclaimer. Claims 1 – 11 and 27 – 31 are pending and under consideration. No new matter is presented in this Amendment.

**Request for entry of amendments**

The specification, drawings and claims 1, 27 and 28 are amended herein for clarity and for the correction of informalities. Accordingly, entry of the amendments is respectfully requested.

**Objection to the drawings:**

At page 2 of the Office Action, the Examiner objected to the drawings under 37 C.F.R. 1.83(a) on the alleged grounds that the code limitations/constraints as further defined in claims 4, 7, 8, 11, 15, 18, 19, 22, 30 and 31 must be shown or the features canceled from the claims. For the following reasons, this objection is respectfully traversed and reconsideration is requested.

FIG. 3 of the drawings is amended herein by the submission of a replacement sheet. The amended drawing depicts an example of the code limitations/constraints of claims 4, 7, 8, 11, 30 and 31. In particular, the amended drawing depicts the sync body and sync identification of the first sync pattern and the second sync pattern. Therefore, the objection should be withdrawn.

**Objection to claims 2 – 11, 23 – 28, 30 and 31 under 37 C.F.R. 1.75(c)**

At page 3 of the Office Action, the Examiner objected to claims 2 – 11, 23 – 28, 30 and 31 under 37 C.F.R. 1.75(c) as allegedly being in improper dependent form for allegedly failing to further limit the subject matter of a previous claim. For the following reasons, these objections are respectfully traversed and reconsideration is requested.

Regarding claims 2 – 11, the Examiner alleged that these claims add no further structural limitations to the storage medium. In particular, the Examiner alleged that these claims relate to the information and not to the record medium structure.

This objection is clearly in error, since it is beyond any question that each dependent claim further limits the claimed subject matter and imparts a structural change to the storage medium. Claim 2 further limits the information storage medium of claim 1 by requiring that at

least one of the first and second sync patterns is disposed in plural locations, and the one sync patterns are arranged such that adjacent pairs of the one sync patterns are separated by equal intervals. Claim 3 further limits the information storage medium of claim 2, by requiring that the second sync patterns be arranged in locations in the additional data area so that a size of each of the user data recorded in the user data area is equal to a size of each of the additional data recorded in the additional data area. Claim 4 further limits the information storage medium of claim 3, by requiring that each of the first and second sync patterns comprise sync data that comprise a sync body that does not satisfy a run-length limited (RLL) (d, k) code having a minimum constraint of d and a maximum constraint of k; and a sync identification that satisfies the RLL (d, k) code. Claim 5 further limits the information storage medium of claim 3 by requiring that the user data area comprise a plurality of the first sync patterns, and a total size of the additional data recorded in the additional data area is an integer multiple of a size of the user data recorded between an adjacent pair of the first sync patterns. Claim 6 further limits the information storage medium of claim 2, by requiring that the user data area comprise a plurality of the first sync patterns, and a total size of the additional data recorded in the additional data area is an integer multiple of a size of the user data recorded between an adjacent pair of the first sync patterns. Claim 7 further limits the information storage medium of claim 6, by requiring that each of the first and second sync patterns comprise sync data that comprise a sync body that does not satisfy a run-length limited (RLL) (d, k) code having a minimum constraint of d and a maximum constraint of k; and a sync identification that satisfies the RLL (d, k) code. Claim 8 further limits the information storage medium of claim 2, by requiring that each of the first and second sync patterns comprise sync data that comprise a sync body that does not satisfy a run-length limited (RLL) (d, k) code having a minimum constraint of d and a maximum constraint of k; and a sync identification that satisfies the RLL (d, k) code. Claim 9 further limits the information storage medium of claim 1, by requiring that the second sync patterns be arranged in the additional data area so that a size of each of the user data recorded in the user data area is equal to a size of each of the additional data recorded in the additional data area. Claim 10 further limits the information storage medium of claim 1, by requiring that the user data area comprise a plurality of the first sync patterns, and a total size of the additional data recorded in the additional data area is an integer multiple of a size of the user data recorded between two adjacent first sync patterns. Claim 11 further limits the information storage medium of claim 1 by requiring that each of the first and second sync patterns comprise sync data that comprise a sync body that does not satisfy a run-length limited (RLL) (d, k) code having a minimum

constraint of  $d$  and a maximum constraint of  $k$ ; and a sync identification that satisfies the RLL ( $d$ ,  $k$ ) code. In summary, instead of merely providing additional information as alleged by the Examiner, the limitations of claims 2 – 11 clearly relate to the information storage medium structure and provide additional functionality affecting the interrelationship between the information storage medium and recording/reproducing hardware.

Claims 12 – 22 were canceled without prejudice or disclaimer in Applicants' Amendment dated October 16, 2006. Therefore, the objections are moot with respect to these claims.

Claims 23 – 26 are canceled herein without prejudice or disclaimer. Therefore, the objections are moot with respect to these claims.

Regarding claims 28, 30 and 31, the Examiner alleged that these claims add no further apparatus limitations. This objection is clearly in error, since it is beyond any question that each dependent claim further limits the claimed subject matter. Claim 28 is amended herein to clarify that the recording and/or reproducing apparatus is further limited by the claim provisions. Amended claim 28 limits the recording and/or reproducing apparatus of claim 27 by requiring that the controller controls the recording and/or reproducing unit to determine the user data area of the information storage medium wherein first sync pattern is disposed in a first location and a second location of the user data area so as to define a first size of the user data, the second sync pattern is disposed in a first location and a second location of the additional data area so as to define a second size of the additional data, and wherein the first size is equal to the second size. In other words, the controller operates according to properties of the information storage medium as defined in the claim. Claim 30 limits the recording and/or reproducing apparatus of claim 27 by requiring that the controller further detects in the first sync pattern: a sync body that does not satisfy a run-length limited (RLL) ( $d$ ,  $k$ ) code having a minimum constraint of  $d$  and a maximum constraint of  $k$ ; and a sync identification that satisfies the RLL ( $d$ ,  $k$ ) code. Claim 31 limits the recording and/or reproducing apparatus of claim 30 by requiring that the controller further detects in the second sync pattern: a second sync body that does not satisfy the RLL ( $d$ ,  $k$ ) code; and a second sync identification that satisfies the RLL ( $d$ ,  $k$ ) code. Regarding claim 28, further defining the information storage medium acts to further define the controller of the recording and/or reproducing apparatus by further defining the controlling actions of the controller. In claims 30 and 31, additional features of the controller are clearly recited. The Examiner has not provided any basis for his allegation that the claims are required to be written in means plus function language.

Regarding claim 29, the Examiner alleged that the term "transfers" is unclear. It is not

seen how this allegation is relevant to an objection under 37 CFR 1.75(c), and it is not understood why the Examiner would regard this particular term to be unclear. It is respectfully submitted that the meaning of the term "transfer" would be clear to persons skilled in the art as an operation carried out by a recording and/or reproducing apparatus. The term "transfer" in claim 29 is therefore used with the same meaning as in claim 27. Contrary to what is alleged by the Examiner, the claim does not relate to a transfer of user data to another user data, but rather relates to the determination by the controller of another user data area of the optical storage medium, specifically another user data area that has the additional data area (of claim 27) between it and the user data area (of claim 27). The controller transfers the user data in the another user data area. Accordingly, the meaning of the term "transfers" is not unclear.

In view of the foregoing, it is respectfully requested that all of the objections to claims 2 – 11 and 27 - 31 be withdrawn.

**Rejection of claims 1 – 11 and 23 – 26 under 35 U.S.C. §101:**

At page 4 of the Office Action, the Examiner rejected claims 1-11 and 23-26 under 35 U.S.C. §101 on the alleged grounds that the claimed invention is directed to non-statutory subject matter, referring to M.P.E.P section 2106. The Examiner alleged that the "wherein" clause of claims 1 and 23 is interpreted as non-descriptive functional subject matter. For the following reasons, this rejection is respectfully traversed and reconsideration is requested.

Regarding claims 23 – 26, the rejection is moot since these claims are canceled without prejudice or disclaimer.

It is respectfully submitted that the characterization of the subject matter of claim 1 as "non-descriptive functional subject matter" does not raise any issue under 35 U.S.C. §101, since non-descriptive functional subject matter is clearly statutory subject matter. Moreover, the Examiner does not provide any explanation to support his allegation that the claims do not meet the definition of statutory subject matter.

Under the Examination Guidelines for Computer-Related Inventions set forth at Section 2106 of the M.P.E.P and also to Annex IV of the Interim Guidelines for Examination of Patent Application for Patent Subject Matter Eligibility set forth at 1300 OG 132 (Nov. 22, 2005), a computer readable medium encoded with a data structure that defines structural and functional interrelationships between the data structure and the computer software and hardware components that permit the data structure's functionality to be realized is statutory subject matter. The term "computer" is not a prerequisite to compliance with 35 U.S.C. §101, since the

Federal Circuit in *In re Lowry*, 32 U.S.P.Q.2d 1031 (Fed. Cir. 1994) found a “memory” with a “data structure” to be compliant with 35 U.S.C. §101.

In the present application, independent claim 1 is directed to an information storage medium for use a recording and/or reproducing apparatus. The information storage medium includes a user data area in which user data is recorded and which has first sync areas. The information storage medium also includes an additional data area located in an area before or after the user data area. The additional data area includes second sync patterns that are different from the first sync patterns such that a recording and/or reproducing apparatus distinguishes between the user area and the additional data area according to the first sync pattern or second sync pattern.

The claims clearly define functional subject matter that is physically embodied in a computer-readable medium, consistent with both the Guidelines and the Federal Circuit's holding in *In re Lowry*. In particular, independent claim 1 provides for the information storage medium to have a user data area and an additional data area and provide that the user area and additional data area have different sync patterns such that the recording and/or reproducing apparatus can distinguish the user data area and the additional data area.

Moreover, there is no basis for the allegation by the Examiner that the claims are not drawn to a computer readable medium. Although independent claim 1 does not use the exact term “computer readable medium,” clearly an information storage media that has the characteristic that a user data area and an additional data area can be distinguished by a recording and/or reproducing apparatus according to first and second sync patterns would be understood by persons skilled in the art as a computer readable medium, since the actions of a recording and/or reproducing apparatus to distinguish the user data area and the additional data area based on the first and second sync patterns would be understood by persons skilled in the art as being a computer function. Therefore, the guidance provided by the Examination Guidelines for Computer-Related Inventions set forth at Section 2106 of the M.P.E.P and also to Annex IV of the Interim Guidelines for Examination of Patent Application for Patent Subject Matter Eligibility set forth at 1300 OG 132 (Nov. 22, 2005) in determining subject matter eligibility is clearly relevant to the present claims.

Accordingly, the subject matter of claims 1 – 11 is clearly statutory under 35 U.S.C. §101. Therefore, the rejection should be withdrawn.

**Rejection of claim 27 – 31 under 35 U.S.C. §102:**

Also at page 4 of the Office Action, claims 27 - 31 were rejected under 35 U.S.C. §102(b) as being anticipated by Roth et al. (U.S. Patent 6,188,335). The Examiner alleged that Roth et al. discloses a digital transmission method for recording data that provides for the placement of appropriate sync signals interleaved between data areas. The Examiner alleged that first and second sync patterns are self-evident and that plural patterns are disclosed. The Examiner further alleged that with respect to claim 27, a recording/reproducing unit is inherently present and that the controller is performed by the CPU element following the overall process/method limitations disclosed. The Examiner further alleged that with respect to claim 28, the first and second locations for the sync signals/patterns are so defined. The Examiner further alleged that with respect to claim 29, data is transferred. The Examiner further alleged that with respect to claims 30 and 31, the d,k constraints are present. For the following reasons, this rejection is respectfully traversed and reconsideration is requested.

Independent claim 27 relates to a recording and/or reproducing apparatus for use with an information storage medium, comprising a recording and/or reproducing unit to optically transfer data including user data and/or additional data between the apparatus and the information storage medium; and a controller to control the recording and/or reproducing unit to determine a user data area of the information storage medium according to a first sync pattern recorded on the information storage medium, to determine an additional information area of the information storage medium according to a second sync pattern other than the first sync pattern recorded on the information storage medium, to transfer the user data with respect to the determined user data area, and to transfer the additional data with respect to the determined additional information area.

Roth et al., on the other hand, relates to a method of encoding and decoding data using multiple coding schemes such that the same data is encoded in two different ways so that it can be encoded and/or decoded by both higher and lower resolution systems. Contrary to what is alleged by the Examiner, Roth et al. does not describe a recording and/or reproducing apparatus that includes a controller that determines a user data area of a information storage medium according to a first sync pattern recorded on the information storage medium, determines an additional information area of the information storage medium according to a second sync pattern other than the first sync pattern recorded on the information storage medium, transfers the user data with respect to the determined user data area, and transfers the additional data with respect to the determined additional information area, as required by independent claim 27.

Moreover, contrary to what is alleged by the Examiner, Roth et al. at col. 4, starting at line 3 does not describe different sync patterns. In the passage referred to by the Examiner, Roth et al. describes different (d,k)-RLL codes for encoding the data itself, not different sync patterns. The Examiner appears to be relying on inherency to support the allegation that first and second sync patterns are self-evident. However, the Examiner has not provided any evidence that encoding data with a first (d,k)-RLL code and a second (d,k)-RLL would necessarily involve first and second sync patterns. In fact, at Col. 11, line 42, Roth et al. describes the use of a single bit pattern for synchronization. Therefore, Roth et al. does not inherently or self-evidently describe first and second sync patterns.

Therefore, the rejection should be withdrawn. Moreover, for the same reasons as described above, claims 1 – 11 are also allowable over the applied art.

**CONCLUSION:**

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

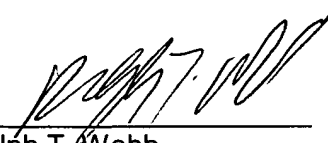
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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